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I N S T I T U T E

Heroic failures in disseminating novel e-learning technologies to corporate clients:

A case study of interactive webcasting

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The Open University

Heroic failures in disseminating novel e-learning technologies to corporate clients: A case study of interactive webcasting.

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Abstract : In principle, it should be easier to disseminate novel learning concepts based in technology enhanced learning to companies. Unfortunately, many corporations seem to be extremely risk averse, and the challenges inherent in the new models seem to be very hard for them to accept. This paper uses the deployment of interactive webcasting systems to present a series of case studies of dissemination successes and failures. We will suggest that the key to successful deployment is in making critical innovation (and its risk) invisible to the client, whilst matching their expectations with an “appropriate” level of technology. This work has led to a new dissemination portal “Prolearn.TV”.

Introduction

One of the hardest things for innovators to understand is why they fail. Why is it that the seeds of our best ideas sometimes fail to germinate in the most fertile of soils? It is vital for us to understand the nature of these failures before we can understand how to reach out effectively into new areas with our innovations. And yet we tend to bury our failures quickly, and move on. For instance, it should in principle, be relatively easy to disseminate novel learning concepts based in technology enhanced learning to companies. In contrast with conventional universities, which have vested interests in keeping physically co-present learners in their existing systems (Daniel, 1999), the corporate client should be keen to move to any system offering higher quality for a lower cost. Unfortunately, many corporations seem to be extremely risk averse, and the challenges inherent in the new models are hard for them to accept.

Our experience in the deployment of interactive webcasting systems, with the KMi Stadium project (<http://stadium.open.ac.uk/>), is of an extensive series of technical successes coupled with serious dissemination failures. This work suggests that one key to successful deployment may be to make critical innovation (and its risk) invisible to the client, whilst matching their expectations with an “appropriate” level of technology. Much dissemination is actually a communicative process akin to ‘sales’ – particularly with a corporate client. As academics, our failure to engage with the ‘sales level’ analysis can mean that our most innovative research projects will stay in the lab for many years longer than they need to.

The 'Stadium' project has explored the impact of live telepresence on learning in a range of experimental studies (Scott and Eisenstadt, 1998). Whilst many companies now deploy elementary webcast technologies and systems, they are usually considered to be mechanisms for leaders to routinely use simple online (one-way) broadcasts to get a message out to their staff; they are typically viewed as a variant of 'business television' with a talking head to camera; and rarely deploy rich media or interactivity. Stadium experimental webcasts are distinct from the broadcast of a rock-concert or new-product launch, in that the participant must "interact" with both the material of the event and with other participants (Scott et al, 2000). Alas, both the concept and the technologies must count as 'dissemination failures' in that (no matter how technically clever, or heroically innovative) they have not been taken up by the client after the experiment has been completed.

Heroic Failure 1 – a novel webcasting model in a corporate learning context

Probably the most innovative 'Stadium' example of rich media webcasting for business is now about 8 years old. A group of workers, all managers in the IBM Corporation (Europe), were all taking a post-graduate university level business administration course. An innovative webcast event was conducted live on 11th April 1997 and made extensive use of a metaphor intended to help motivate the students. As is typical with students studying with the Open University, these individuals were working remotely, but were provided with a physical tutor whose job was to facilitate regular group meetings at a convenient physical location for each co-located 'tutor group' (in this case 8-10 students in groups around Europe). The students were studying for an examination on an introductory MBA course. Instead of flying to a central site in the UK or continental Europe to attend a large-group revision seminar, this particular cohort of IBM-sponsored managers went to a local IBM Technology Learning Centre to partake in a world-wide exam revision session run by central faculty members at the Open University headquarters in the UK. The live revision session was designed as a mix of 'broadcast', 'interaction' and 'game' sessions. The game was designed to use the metaphor of a British 'pub quiz'.

The 'pub quiz' concept may require some explanation outside the UK. A pub quiz is typically a 'bar based' team game which is conducted with general knowledge questions in a traditional British pub setting - and the prize is usually more British beer. Questions are 'called out' to the teams who may discuss possible answers amongst themselves before recording their team response on an answer form. At the end of the event, the team's answer forms are marked, and a prize (typically alcoholic) is awarded to the winning team.

In our event, students in each geographical location – mainly the IBM resource centres across Europe – each registered as teams in their existing tutor groups (a typical grouping comprised six or seven sharing a single PC with a projection screen, and a designated 'team captain' to type in the responses; we had allowed for virtual

teams of isolated home-bound individuals; but whilst some observed, none registered to 'play'). Live streaming audio from the tutors provided running commentary and feedback, and a sequence of questions appeared in a custom browser frame that challenged the students to think about their coursework. A special scoring interface enabled the central academics (in the UK) to score the team's answers at the end of each round. The instantly updated team scoreboard inspired some friendly competitiveness.

The pub-quiz web-page interface (see figure 1) was designed to reflect the concepts of a British Pub scene. The main controls are present on the 'bar' at the bottom: an 'ashtray' icon resets the user to the current state of the quiz; a 'beer mat' depicting a map shows the live location of other players; the comments and questions 'bar towel' provides an interface for the user to participate in the live text chat; the quiz 'beer mat' is used in the replay to start the quiz; and the 'pint of beer' is a live indication of where you are in the quiz - when you are out of beer, the quiz is over!

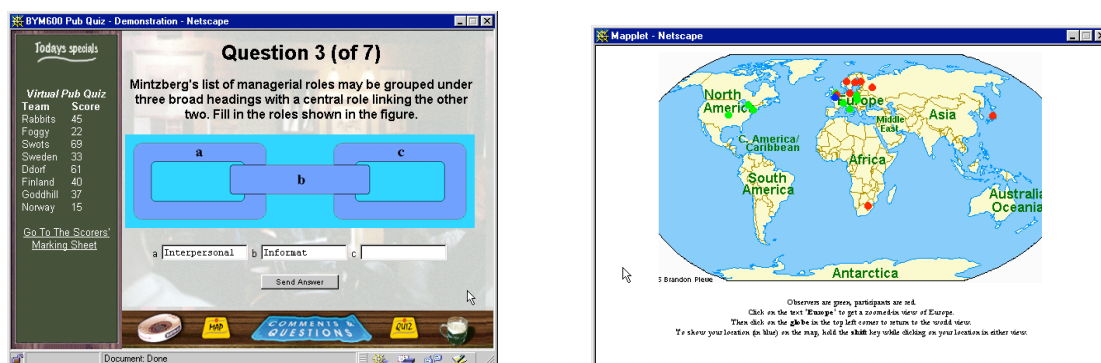


Figure 1 – Live interaction screens from the pub-quiz – 11/04/97

This 1997 event had many innovations – most particularly it represented an attempt to rethink a conventional model (the revision lecture) in a novel format – a made-for-the-web interactive, synchronous and distributed team game. Alas, as already indicated, whilst the event represented significant technical success (despite being dogged by minor technical glitches), neither the technology, nor the learning concepts it represented have been used again in a business context! There is good evidence that international audience seemed to find the concept of a British pub-game pretty alien, but this was not the critical reason that both the technology and the concept failed to disseminate. A more serious problem was that the interaction model used seems to have been too far from the interaction models used by the corporate 'students' and their management. In subsequent events, we tried to pull back from such radical peer-interaction game models towards more 'conventional', indeed more 'lecture-like' formats.

Heroic Failure 2 – live, rich-media webcasting in a corporate context

Probably the best simple 'Stadium' example of rich media webcasting for business is now over 5 years old. On the 25th of March 1999, the Stadium webcasting

technologies enabled a project team from British Petroleum, from an oilfield facility in the rural South of England, to achieve a key learning goal. The company was able to share valuable technical knowledge about specialized oilfield equipment with a large and distributed community of practice. In two webcasts lasting 40 minutes each, three oilfield engineers spoke live from a working field stores shed, over the BP intranet, to over 50 colleagues seated at their desks around the world: from Bogota, through Houston to London and Aberdeen. It had to be two events to reach the “awake” parts of the world at their desks. Remote participants were able to see the presenters, interact with them via text chat, and interact with their presentation by clicking on animations and virtual-reality views. All this within a page of a web-browser on a standard desk or laptop machine.

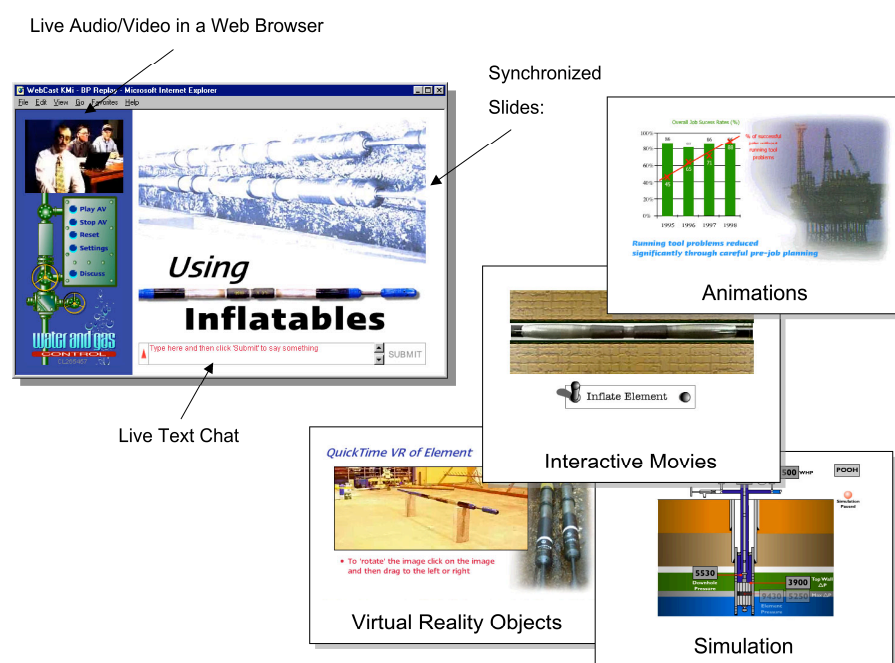


Figure 2 – The Rich Media Inflatables Webcast – 25/03/99

Technically, the event was “leading-edge” and successful. The client computers accessed the webcast via an applet embedded in a web page. They received the streaming video and audio, together with the presenter's slides. Additionally, they could send text messages via the web page applet to all connected computers, including the presenter. All remote users were directed to a local URL on the BP intranet web server. The live event page gave them some details of the timing and nature of the scheduled event. Near to the time of the event they could click a link on this page to get access to the webcast client applet.

Figure 2 shows some of the rich media synchronized-slides that appeared in the slide pane of the interface for users to interact with. Beneath the slide area is the text chat input where users could talk to each other and send in questions to the presenter or support team. The main pane of the chat window is not shown in this figure view – it

appears when required. This large pane obscures the slide area slightly so it can be expanded or shrunk by dragging on its title bar. It can also be made semi-transparent to allow users to view the slide beneath whilst typing.

The presentation team used a “standard” corporate desktop computer with web access, and like the clients, connected to the same shockwave application, but as a “presenter”. The ‘presenter’ is allowed additional functionality, such as being able to control the slides currently being seen by the other clients. In addition to the ‘presenter’ and clients, an ‘administrator’ connects via the shockwave application in an “admin” mode. This gives the administrator the ability to change the state of the broadcast e.g. preview, live, intermission etc.

The company was impressed, for example one participant in Aberdeen noted the transformational potential of the effective use of telepresence technologies such as this:

"The webcast was an excellent example of using new technology to distribute information, and I can see many applications for this approach in the future. I wonder how much it would cost to have the same 50 people in one room, in terms of expenses, never mind the man-hours!"

Alas, yet again, the technical success has not been associated with large scale dissemination. The deployment of simulation, interactive movies, VR objects and other (technically clever) content during the presentation seems to have been seen as pedagogically beyond the reach of the technical support business units. They felt that they could not produce media to support events of this quality and this actually had the opposite effect to that intended – they chose to move ahead even more slowly into this complex future. Business units must see a pedagogical model that relates to their current models – and is ideally an incremental step. In essence, it seems with hindsight, that we were asking the corporate clients to leap 5 steps ahead where they were only (nearly) ready to move ahead 1 step.

In further work, we extended our work into simplifying the business webcasting systems to suit this more incremental step model for dissemination (see eg. Scott and Quick, 2003), with yet more heroic failure. In all these cases, the studies are “heroic” in that they are clever, innovative and technically functional. Yet they must still count as failures in that they remain, stubbornly, in the academic research lab. Critically, it is clear from these studies that the corporate clients in our work, who ask for leading edge systems and technologies, are actually unable to proceed further with the really innovative systems – even if they actually work! With too many ‘visibly’ complex pieces of technology, it seems that the risk of one piece failing, once the experimenters have left the scene, is too much for the client to take. The only risk-free technologies are ones that you completely understand, or close enough to it to be ‘invisible’.

Prolearn – Hosting an integrated framework for business webcasting

The Prolearn Network of excellence (<http://www.prolearn-project.org/>) is an attempt to address the need to integrate the corporate client into the academic research framework from the beginning of the process. Prolearn is a large EU funded network of many universities that has clear ‘vertical’ research work packages of topics relevant to professional learners integrated with an equal number of ‘horizontal’ communications work packages. One critical such package is “Dissemination” itself clearly, which focuses on the effective knowledge sharing about our work; but more interestingly, another is a “Virtual Competence Centre” which aims to present this work in a more ‘sales and marketing’ oriented framework – providing simple business focused platform and forum for our research. The lessons from our earlier ‘heroic failures’ in webcasting are embodied in a work of a work package on ‘Interactive Media’. In this research there is a dissemination framework called ‘Prolearn.TV’ (<http://www.prolearn.tv/>), which embodies some of the critical elements.

‘Prolearn.TV’ webcasting is designed around a simple slide-and-video “talking-head” model; the clients used are primarily single, web-based applets (though the overall architecture supports many formats). Moreover, the intent of the design is that “corporate clients themselves” can produce their own materials remotely, with minimal assistance (no film crews or specialist expertise). Furthermore, corporate partners are enjoined to encounter the production platforms through the auspices of our ‘Virtual Competence Centre’ and we intend to incorporate their input through a range of interactive forums – such as some “Cooperative Learning” environments.

We envisage a range of further work aimed to simplify the models we use to finally, (and really!) disseminate a model for interactive business webcasting for professional learning.

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